

IN THE CLAIMS:

Claim 5 has been canceled without prejudice or disclaimer.

Claims 1 through 4, 6 through 11, 13, 15, 19, 20 and 23 have been amended herein. New claims 27 through 36 have been added. Please note that all claims currently pending and under consideration in the referenced application are shown below. Please enter these claims as amended. This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (Currently Amended) A polycrystalline diamond abrasive element, comprising a layer of polycrystalline diamond bonded to a substrate along an interface, the polycrystalline diamond layer having a working surface opposite the interface and an outer peripheral surface extending between the working surface and the interface, the polycrystalline diamond abrasive element having a region rich in catalyzing material and an annular region adjacent the peripheral surface extending away from the working surface toward but stopping short of the interface, the annular region or a substantial portion thereof being located between at least a portion of the region rich in catalyzing material and the peripheral surface and being lean in catalyzing material.

2. (Currently Amended) The polycrystalline A ~~polycrystalline~~ diamond abrasive element according to claim 1, wherein the polycrystalline diamond layer also has a region adjacent the working surface which is lean in catalyzing material.

3. (Currently Amended) The polycrystalline A ~~polycrystalline~~ diamond abrasive element according to claim 1, wherein the annular region or portion thereof lean in catalyzing material extends into the polycrystalline diamond from the peripheral surface to a depth of about 30µm to about 500µm.

4. (Currently Amended) The polycrystalline A ~~polycrystalline~~ diamond abrasive

element according to claim 1, wherein the annular region extends from the working surface ~~towards toward~~ the interface to a depth of at least half the overall thickness of the polycrystalline diamond layer, but stops short of the interface by at least about 500 μ m.

5. (Canceled).

6. (Currently Amended) ~~The polycrystalline A-polycrystalline~~ polycrystalline-diamond abrasive element according to ~~claim 5~~claim 1, wherein the catalyzing material is present as a sintering agent in the manufacture of the polycrystalline diamond layer.

7. (Currently Amended) ~~The polycrystalline A-polycrystalline~~ polycrystalline-diamond abrasive element according to ~~claim 5~~claim 1, wherein the region rich in catalyzing material itself comprises more than one region, which differ in average particle size or chemical composition.

8. (Currently Amended) ~~The polycrystalline A-polycrystalline~~ polycrystalline-diamond abrasive element according to claim 1, which is a cutting element.

9. (Currently Amended) ~~The polycrystalline A-polycrystalline~~ polycrystalline-diamond abrasive element according to claim 1, wherein the polycrystalline diamond ~~is of a high-grade layer~~ comprises a bevel at a peripheral edge of the working surface.

10. (Currently Amended) ~~The polycrystalline A-polycrystalline~~ polycrystalline-diamond abrasive element according to claim 1, wherein the substrate is a cemented carbide substrate.

11. (Currently Amended) A polycrystalline diamond abrasive element, comprising a layer of polycrystalline diamond bonded to a substrate along an interface, the polycrystalline diamond layer having a working surface opposite the interface and an outer peripheral surface extending between the working surface and the interface, the polycrystalline diamond abrasive element having a substantially annular region lean in catalyzing material adjacent the peripheral

surface commencing at a peripheral edge of the working surface and extending away from the working surface toward the interface but spaced therefrom, at least another region of the polycrystalline diamond layer being rich in catalyzing material.

12. (Previously Presented) The polycrystalline diamond abrasive element according to claim 11, further including a further region lean in catalyzing material in the polycrystalline diamond layer adjacent the working surface.

13. (Currently Amended) The polycrystalline diamond abrasive element according to claim 12, wherein at least one of the regions lean in ~~eatalysing~~catalyzing material extends into the polycrystalline diamond layer from at least one of the peripheral surface and the working surface to a depth of about 30µm to about 500µm.

14. (Previously Presented) The polycrystalline diamond abrasive element according to claim 11, wherein the annular region extends from the working surface toward the interface to a depth of at least half the overall thickness of the polycrystalline diamond layer, but stops short of the interface by at least about 500µm.

15. (Currently Amended) The polycrystalline diamond abrasive element according to claim 11, wherein the at least another region rich in ~~eatalysing~~catalyzing material itself comprises a plurality of regions rich in catalyzing material, which regions rich in ~~eatalysing~~catalyzing material differ in at least one of average particle size and chemical composition.

16. (Previously Presented) The polycrystalline diamond abrasive element according to claim 11, configured as a cutting element.

17. (Previously Presented) The polycrystalline diamond abrasive element according to claim 16, wherein the cutting element is secured to a drill bit.

18. (Previously Presented) The polycrystalline diamond abrasive element according to claim 11, wherein the substrate is a cemented carbide substrate.

19. (Currently Amended) A polycrystalline diamond abrasive element, comprising a layer of polycrystalline diamond bonded to a substrate along an interface, the polycrystalline diamond layer having a working surface opposite the interface and an outer peripheral surface extending between the working surface and the interface, the polycrystalline diamond abrasive element having a region adjacent at least a portion of the working surface lean in ~~eatalysing~~ catalyzing material and a substantially annular region lean in catalyzing material adjacent the peripheral surface, contiguous with the region, ~~and~~ extending away from the working surface toward the interface and spaced from the interface.

20. (Currently Amended) The polycrystalline diamond abrasive element according to claim 19, wherein at least one of the regions lean in ~~eatalysing~~ catalyzing material extends into the polycrystalline diamond layer from at least one of the peripheral surface and the working surface to a depth of about 30 μ m to about 500 μ m.

21. (Previously Presented) The polycrystalline diamond abrasive element according to claim 19, wherein the annular region extends from the working surface toward the interface to a depth of at least half the overall thickness of the polycrystalline diamond layer, but stops short of the interface by at least about 500 μ m.

22. (Previously Presented) The polycrystalline diamond abrasive element according to claim 19, further comprising another region in the polycrystalline diamond layer rich in catalyzing material.

23. (Currently Amended) The polycrystalline diamond abrasive element according to claim 22, wherein the another region rich in catalysing material itself comprises a plurality of regions rich in catalyzing material, which regions rich in ~~eatalysing~~ catalyzing material differ in

at least one of average particle size and chemical composition.

24. (Previously Presented) The polycrystalline diamond abrasive element according to claim 19, configured as a cutting element.

25. (Previously Presented) The polycrystalline diamond abrasive element according to claim 24, wherein the cutting element is secured to a drill bit.

26. (Previously Presented) The polycrystalline diamond abrasive element according to claim 19, wherein the substrate is a cemented carbide substrate.

27. (New) A polycrystalline diamond abrasive element, comprising a layer of polycrystalline diamond bonded to a substrate along an interface, the polycrystalline diamond layer having a working surface opposite the interface and an outer peripheral surface extending between the working surface and the interface, the polycrystalline diamond abrasive element having at least one region rich in catalyzing material and a substantially annular region lean in catalyzing material adjacent the peripheral surface and extending from adjacent to the working surface toward the interface, the substantially annular region located between a portion of the at least one region rich in catalyzing material and the peripheral surface, another portion of the at least one region rich in catalyzing material being located adjacent the peripheral surface and between the substantially annular region and the interface.

28. (New) The polycrystalline diamond abrasive element according to claim 27, further comprising another region of the polycrystalline diamond layer lean in catalyzing material and adjacent the working surface.

29. (New) The polycrystalline diamond abrasive element according to claim 28, wherein the substantially annular region and the another region of the polycrystalline diamond layer lean in catalyzing material are substantially contiguous.

30. (New) The polycrystalline diamond abrasive element according to claim 28, wherein the substantially annular region extends from adjacent the working surface toward the interface a distance greater than a depth of the another region from the working surface.

31. (New) The polycrystalline diamond abrasive element according to claim 27, wherein the substantially annular region lean in catalyzing material extends into the polycrystalline diamond from the peripheral surface to a depth of about 30 μ m to about 500 μ m.

32. (New) The polycrystalline diamond abrasive element according to claim 27, wherein the substantially annular region extends from the working surface toward the interface to a depth of at least half the overall thickness of the polycrystalline diamond layer, but stops short of the interface by at least about 500 μ m.

33. (New) The polycrystalline diamond abrasive element according to claim 27, wherein the catalyzing material is present as a sintering agent in the manufacture of the polycrystalline diamond layer.

34. (New) The polycrystalline diamond abrasive element according to claim 27, wherein the at least one region rich in catalyzing material comprises more than one region, which differ in average particle size or chemical composition.

35. (New) The polycrystalline diamond abrasive element according to claim 27, which is a cutting element.

36. (New) The polycrystalline diamond abrasive element according to claim 27, wherein the substrate is a cemented carbide substrate.